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ABSTRACT

Historians have traditionally seen the advent of radio in the United States as a signal in the early 1920s for a season of euphoria; what they have not seen is the sense of shock and loss the new technology brought. An analysis of newspaper and magazine coverage of the new medium documents the impact on American sensibilities of the new experience. The analysis reveals that most journalists were at a loss to describe the experience and drew upon familiar metaphors to render it understandable. As a treasury of those metaphors, the American print media served as a major conservative influence, preserving earlier experience in conceptual patterns that helped Americans to come to terms with their sense of loss of earlier communication modes. Only after the new had been understood in terms of the old could old meanings be attached to this new object in American life. The experience with radio pointed up two more general patterns in American cultural life--the sense of loss of mastery and the sense of loss of relationships. With its invasion of domestic privacy, its threat to commitment in the larger social sphere, and its shock to the sensibilities, radio exemplified these unsettling sensations. Its further perceived impact on the ability to assimilate meaning and to concentrate in depth on substance of account seemed to promise an impairment of intellectual style long associated with print. (FL)

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Qualitative

"Loss and Change": Radio and the Shock to Sensibility in American Life 1919-1924.

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"I have always dodged this radio question," Chief Justice William Howard Taft is reported to have said during the early years of broadcasting. "Interpreting the law on this subject is something like trying to interpret the law of the occult. It seems like dealing with something supernatural. I want to put it off as long as possible."[1]

Taft could not be considered an innocent. His public life encompassed both the Radio Act of 1912 when he was president and the Radio Act of 1927 when he was chief justice. Yet here he expressed quite simply the bafflement many people felt when confronted with something so new, so incomprehensible as radio. All he could do was to reach for an old metaphor; invoking the "supernatural" was an ancient way of comprehending the new and making it accessible to the understanding.

This essay focuses on such organizing ideas and images that Americans used to make sense -- either intellectual or emotional sense -- out of what they saw and heard as they experienced radio's startling impact on sensibility after the Great War.[2]

Americans talked enthusiastically of the new radio in the optimistic post-war years, easily borrowing pre-war images of heroism and venture to describe their experiments with batteries and headsets. Most historians of radio have also focused primarily on the wonder, joy and excitement radio produced.[3]

Barnouw would entitle an entire section of his first volume on radio history, "The Euphoria of 1922."[4] Radio did represent a remarkable

expansion of powers over time and distance; euphoria was appropriate. But this heady sense was tinged by an uneasy impression that radio was also ominous and somehow foreboding. Some individuals could, of course, project on any new cultural element all their dominant fears. Henry Ford's Dearborn Independent instantly saw in radio the frightful new weapon of Communists and Jews.[5] Such warnings are evidence to the extremes of sensibility in the period. Amid their din other more contained voices sounded, those of observers who sensed the real psychic costs this new electronic technology was already beginning to exact.

These pessimistic comments tended to be fleeting, atypical, and cloaked in denial of one sort or another. Nevertheless they were significant fore-runners of common apprehensions that would develop as electronic communications pervaded American life.[6]

One of the costs suffered in confronting such new technology --indeed in confronting anything new -- was that of a sense of loss; loss of old behavior, old values, old relationships, old senses of the self. An argument can be advanced that such a loss resembled bereavement. The bereaved suffers not only the loss of the old but the meaninglessness of the new, and the grieving process can be successfully completed only by attaching the meanings of the lost object to the new. (Widows, for example, have to find some new person or activity which revives the old sense of themselves as valuable persons.)[7]

This process of assimilating the new to the old involved moving back

and forth between the two, accommodating one to the other, until finally a synthesis was achieved. Only then could genuine new meaning evolve; and with it a new sensibility.

The people of the 20's, I believe, would have to go through some such process of grief as they learned to attach old meanings to experience with new technology, reweaving patterns of imagination and behavior to encompass radio as a significant element in the new fabric of their lives.[8]

This essay focuses on a five-year transitional period, 1919-1924, between the lifting of controls on amateur radio experimenters after World War I and David Sarnoff's proposal for a "chain" of high powered stations across the country in 1924. In this period corporations fixed their hold on radio receiver manufacturing and would shortly expand to control broadcasting, but the rationalizing effect of the networks and the radio legislation of 1927 were still to come. By 1922 some 500 transmitting stations had been set up under the auspices of such organizations as churches, newspapers, educational institutions, department stores and equipment manufacturers. Programming was chaotic, built at first around speakers and performers who volunteered. Advertising developed only slowly; listening and transmitting were in a wildly experimental state. In this fluid period would be shaped the nature of radio impact on American sensibility.[9]

My primary sources for this study are selected from popular print

media before and during this period because I wish to argue that the press in this transitional time played a crucial conservative role in the process of confronting the new.[10] Serving as a cultural storehouse of images and metaphors, the press helped make it possible for people to imagine the new in terms of the old. This process took place with radio. Only after experiences with radio had been clothed with meaning according to old systems of images and explanations could this new technology become really "available to the imagination" -- Fussell's phrase -- on its own terms.[11]

INHERITED IMAGES

Leonard Smith, Jr., reporter for the New York Times, put on a pair of ear-phones in 1922 and was "fascinated...awestruck" by "sounds that surely were never intended to be heard by a human being...noises that roar in the space between the worlds."[12]

"'What are those noises?' you ask the operator....he shrugs his shoulders. 'You know as much as I do,' he says."

The mysterious sounds proved difficult to describe. In mustering an analogy to domesticate the experience, Smith succeeded almost too well, comparing the "noises that roar in space" to the sound of frying eggs. Others found more trenchant analogies.

From deep in cultural memory came Taft's concept of the supernatural, primitive and powerful as an explanation of the unknown. Post-war readers appeared to conceive of radio most easily in images inherited

from wireless. Some might carry in their imaginations the aura of the famous Kipling story published by Scribner's in 1902, a haunted thing about a night experimental wireless signals across England were blocked by transmissions from the beyond, the voice of the long-dead poet Keats.[13]

The two decades after the Kipling story had seen arguments among scientists and the laity as to whether electric "waves" relayed by wireless telegraphy provided evidence for the existence of thought "waves" relayed by telepathy.[14] In 1919 an essayist for Harper's remarked on having sensed "something uncanny, something savoring of telepathy" in wireless, "something which did not obey the recognized laws that have been derived from experience in other fields...." even though he promptly smothered such indiscretion in stolid arithmetic about sound waves.[15]

Almost all such excursions were immediately demystified by scientific explanation. These "magic powers", as Smith of the New York Times put it, had been "harnessed" by science.[16] The sentence would become a formula for science writers, a ritual transition from alluring "mystery" headlines to the more mundane account that followed.

Even the Harper's exercise in rational thinking had climaxed somewhat ambiguously, however, in speculation about voices from "spheres other than our own."[17] "The first hearing of a disembodied voice was a shock to sensibility difficult to imagine a half century later.

But it struck ancient chords in the Protestant imagination, steeped in Old Testament imagery, echoing to the voice from the burning bush. Future movie makers and lyrics writers would apply the new technology to the old story, turning out film and song in which the voice from the radio was the voice of God.[18]

Much of the inherited language science used in discussing radio still bore religious or spiritual connotation. Mentions of the "ether" and the "heavens" had always invoked other-worldly associations.[19] And wireless shared its designation as a "medium" with the spiritualist practitioner, an individual of increasing prominence in the troubled years following the Great War.[20] A striking essay by W.H. Worrell appeared in the November, 1922, issue of Radio Broadcast, a handsome new Doubleday publication whose contributors seemed particularly sensitive to the subtle implications of the new technology. Invoking radio as "apparently supernatural...affording a change from the regularity of nature and of average human experience," Worrell found that radio appeared to be "transmission and reception of pure form, without substance....this form, this exchange of thought, is constantly passing about us --passing through us--from countless transmitting stations, at this very instant!" Radio possessed all the fascination of a link between the physical and the spiritual; one felt at the threshold of fundamental truths.[21]

Adding lustre to this complex strand of associations was

identification of wireless telephony with psychoanalysis, often linked in this period to the occult.[22] By 1922 the New York Tribune, published a fantasy about a novelist who played golf while his unconscious dictated his latest work to his secretary by a mysterious kind of inter-personal radio.[23]

Altogether the experience of radio seemed to invoke a different sensibility. In contrast to the printing press or the motion picture, radio broadcasting "harks back to the primitive," said one Scribner's critic in 1923, "giving it new power as yet unmeasured...."[24] In a period when fears rose and confidence in rationality grew increasingly fragile, resort to the ancient comforts of the non-rational seemed appealing. Taft's intuitive remark floated on a strong under-current.[25]

Quite contrary to this supernature explanation, and existing in comfortable contradiction with it, was the quite worldly experiece Americans had had with previous electronic communications --the telephone and the wireless telegraph -- as direct connections between real human beings. In fact the new radiophone behaved in the American imagination as a sort of eccentric telephone without wires.

The old long-distance phone had moved signals dependably along wires between two people. Its primary purpose, as a turn-of-the-century telephone executive had assured his customers, had been to provide "confidential" conversations. Indeed a chief triumph for Mr. Angus S. Hibbard, general manager of the Chicago Telephone Company, had been to

persuade late-Victorian businessmen that they were not "talking into a hole in the end of an iron arm," but "speaking into the ear of a man." Women had posed no such problem, Mr. Hibbard observed, being keen to "grasp the personality" of the invisble conversationalist, smiling and bowing into the telephone and even stopping to touch up their hair before taking a call in their own rooms. The whole effect had been that of intimate connection --private, personal and direct.[26]

Therefore it seemed reasonable to expect that the new wireless telephony would also serve as a device for interpersonal communication. Veteran telephone users were affronted, then, to discover that radiophone signals connecting two people also radiated indiscriminately through the air, allowing other individuals with radiophones to listen to conversation or wantonly to interrupt. Writers spoke resentfully of "leakage of signals" into the hands of "unauthorized persons." The factor of "non-secrecy" was also deplored through the Teens as a vital commercial defect. (The idea of deliberately using this unfortunate radiating quality to enable one person regularly to communicate with many, i.e. to "broad-cast," occurred only to a few before World War I. There seemed nothing in the technology to shape inevitably the mass form radio "broadcasting" would eventually take.)[27]

At the same time the growing tribe of amateur experimenters shared the telephonic model, smirking about "eavesdropping" on others' signals. As late as 1923, radio fans would still talk of "listening in," language

evoking the clandestine pleasures of the rural party line.[28]

When the American Telephone and Telegraph Company set out to exploit wireless telephony, it intended to facilitate private conversation from persons abroad, from moving vehicles, from ship to shore. Even its ground-breaking experiment of 1922 in setting up a station to send signals only one way, the famous Station WEAF, was conceived as a sort of open-ended telephone. Anyone who wanted to talk to the public could step up to the microphone and pay a "toll" for the time. (Senders proved distressingly few, musical intervals had to be improvised, corporations began to buy time, and paid commercial "broadcasting" was willy-nilly underway.)

"With all the things a radio telephone has done...there are some things it cannot do," admitted the New York Times in 1922, "it can't give you any privacy. The world's information is yours if you have a radio telephone, and also whatever information you intrusted to the air belongs to the whole world." The expectation of private communication betweeen individuals died slowly as the new idea of a medium controlled by institutions and broadcasting to masses came into the American consciousness.[29]

Radio also entered the national consciousness on a wave of fantasy about wireless operators. At hand were all the formulas lovingly compounded by writers over the years -- romance, melodrama, heroism, self-sacrifice. "Never yet has a wireless operator failed in his duty

to humanity on land or sea!"[30] There was a vital sense of connection, of responsibility.

Such images had once crested on a wave of news stories about the operator on the liner "Carpathia" who clung to his key, speeding rescue to the sinking "Titanic" in 1912.[31] They surfaced in the rhetoric of enlistment propaganda in 1917. Whether the choice would be trench or radio shack, "You can be heroic and manly in either."[32] The "Romance of the Wireless" became almost a cliche in both headline and magazine title. It would not be accidental that in 1920 a reporter-turnednovelist would shape fantasies of flight and freedom in the mind of his Gopher Prairie heroine about the "night telegraph operator at the railroad station, the most melodramatic figure in town."[33]

It was but a step then for the alert journalists assembling the first issue of the magazine Radio Broadcast in 1922 to transfer that lovely sense of excitement to experimentation with radio, a pursuit endowed with a "romance" and a "spirit of adventure" that "no other branch of science enjoys!"[34]

The mention of science here invoked the notion of dominance. Images of power and control had frequently surfaced in both scientific journals and the magazines of lay science during the Teens, reporting new dominion over trains, weather, crime, steamships, railroads, warfare, and indeed over time itself -- all made possible by ever-expanding

forays with radio-telephony.[35]

Thus when the amateur experimenter of the early 20's sat down in his garage, shack or attic bedroom to assemble his mystifying array of wires, coils and batteries, he could inhabit a world of excitement, drama and power. He could choose to exert his will over time and distance. He could send his voice across the miles. In those precious hours of the imagination, there was symbolic expansion, aggression, responsibility, and action. "Manly" was indeed the word.

TRANSITION

It is historically accurate for masculine terminology to have dominated the preceding paragraphs. Amateur radio was almost exclusively a male affair; a fraternal brotherhood pursued it.[36] Small boys bought parts and assembled crystal sets; fathers ventured into the complexities of the super-heterodyne. Mothers, sisters, daughters rarely participated. They were cast -- at best -- in popular periodical accounts on radio as mildly tolerant, so long as the venture did not intrude on their domain.[37]

In the early 20's articles began to appear in popular magazines describing devious ways of sneaking the radio apparatus into the living room.[38] Females would object. There would be noise, mess, battery acid on the rug. Therefore Mother must be lured from home, and the radio installed in her absence. In some fashion the unreliable apparatus must be persuaded to emit enticing music as she was introduced back onto the

scene. She would smile, and the battle would be won. In various forms this drama was re-enacted in contemporary print.[39] Radio appeared gradually to inhabit the living room, not the garage. Installed in a modishly-designed cabinet, it was transformed from a laboratory apparatus into a piece of furniture. It began to be thought of as a family pastime, not a lone flight of the imagination. It meant listening, not transmitting; consuming, not creating. A once venturesome pursuit appeared to have become domesticated and passive.

Indeed the notions of domestication and passivity would characterize much of the new imagery of radio listening. "Having my after-dinner coffee in the den," reflected one listener, "I couldn't help but think how comfortable I was, seated in my easy-chair with the ear-phones in place...." (By 1924 a new symbolic triad of masculine satisfactions had emerged -- radio, slippers and cigar.)[40]

There were many such expressions of delight over the new luxury and ease of access to distant events. But there was also dismay. The most cutting comments came from the cultists of true manhood.[41] It was simply effete to lounge at home, listening to the ball-game rather than shouting from the stands. Amateur radio experimenters also joined in the derision. Restricted by 1922 to transmitting on no more than a 200-meter wave length, amateurs saw themselves as an embattled elite of activists. Threatening them they saw a growing mass of sluggish "proletarians" who thought amateur signals interfered with living-room

reception, a mass which could only listen, not transmit.[42] And keening from the edges of the battle were those critics who deplored radio as typical of all technology, transforming man into passive consumer or man into machine.[43]

Such loss of mastery and loss of connection were perhaps most effectively evoked in the early part of the decade by the magazine essayist, Bruce Bliven. In 1924 he made a fancied visit to the "Legion" family whose lives centered on radio. A once-dominant father now quails before a domineering wife -- whose favorite radio listening is a fundamentalist preacher -- and petulant children bent on the new jazz. Father will be banished to a portable in the basement if he persists in "debauching" himself with a prize-fight. The teen-age children commandeer the set, turn on jazz for dancing, and Father subsides with the rug rolled up over his feet.[44]

The sense of conflict between gain and loss expressed so vividly in this satire seems akin to the feelings expressed with any loss. Journalism such as this gave imaginative shape to the ambivalence and anxiety occasioned by the new technology. Its phrases helped to crystalize the conflict between expectations of the new and pain over loss of the old.

THE NEW AMBIGUITIES

Popular language about radio became more ambiguous as post-war Americans submitted to the electronic experience. That experience

appeared subtly to be altering consciousness; gone was the old world of sight as primary vehicle of sensual data. One must be prepared to live alternatively and intensively in a world constructed only of sound. "For centuries the ear has played a secondary role," announced the Dearborn Independent. "The eye with the aid of the printed page, supplanted it....With radio the ear comes back...."[45]

To many, indeed, the ear now appeared supreme.[46] Its language dominated reports of the new radio-induced sensibility. In an April, 1923, essay in Scribners', O.E. McMeans reproduced the sensations of a new instantaneous experience of environment. By a "slight crooking of the finger" one could elicit a locomotive whistle in Georgia, a Kansas City siren, a handbell in Detroit, "My Old Kentucky Home" from Louisville, or the police gongs and crowd yells at the scene of a robbery-in progress, reported by an announcer from a station window across the street. Even the early studio broadcast reproduced a complete aural environment with startling impact. One heard all too clearly the rustle of papers in the speaker's hand, the taking of breath between the singer's phrases, "every sound made or uttered while the switch is turned on."[47]

The experience was a new blind-man's buff; the blind listener sat fascinated, wrapped completely in aural sensation, visual data replaced by pictures in the mind. "How easy it is," crooned McMeans, "to close the eyes and imagine...."[48] Ear-phones completed the sense of

isolation.[49] And yet one was not alone. Before long, predicted the Literary Digest in June of 1923, the radio would put every man on earth in the presence of every other, auditorily speaking.[50] The idea was staggering. This was not the old sound-world of the telephone with its sense of finite, personal exchange, nor yet the contrasting sound world of the phonograph with its stored, impersonal performance available to all. Radio presented a new reality which transcended both -- the intrusion into intimate experience of the remote person or event, an experience in company with millions of others, yet strangely separate. Here were the ambiguities: the sense that one was participating, yet alone; in command, yet swept blindly along on the wave of sound. Prevalent images of mastery and connection, then were punctuated more frequently by those suggesting intrusion into the intimate environment and alienation from social and personal relationship.

EXTENDED MASTERY VS. INTRUSION

Prevailing descriptions of radio continued hearty and optimistic. The greatest new power seemed that of obliterating distance, the world appeared to shrink.[51] "DX fishing" became a ruling pastime; tuning in Cuba or California was the rage. For the Legion family it partook of a "sacrificial rite."[52] The new radio machine appeared also to be subtly altering consciousness; to some observers, listeners seemed to be developing a new imaginative mode. People had always envisioned themselves transported to distant vistas. Now listeners perceived the

remote as though they had compelled it to appear in their own homes. "Pittsburgh and Newark are right here in the shack," exclaimed a correspondent from an Ontario mining camp.[53] The ability to command an experience to play itself out within one's own four walls was intoxicating -- Melba singing next to one's own hearth, the Four Horsemen plunging through the door!

Having admitted radio and tuned to a station, however, one's sense of control weakened. Media language which presented radio's advent into the living room in sexual metaphor -- male invasion of female space --also suggested invasion of personal boundaries for all members of a family --visual insult, aural trauma, perceptual disruption.[54]

The paraphernalia of radio, in the first place, seemed inaesthetic. Antennas were eyesores on rooftops. Lead-in wires dangled unattractively from fronts of houses. Inside, the necessary machinery seemed vulgar --so ironic, the sound from the "blue-vaulted heavens" coming by way of a "bakelite box and a tangle of wires."[55]

The shock to hearing was even more universally observed. Articles and advertisements warned of "squawks, squeals, screams," and "enough howls and yells to make one think all Hell was let loose." In 1922, Bliven described radio's sound in terms of violence and assault, with listeners as victims of a hostile science:[56]

> From the huge phonograph horn...comes a sudden shrill whistle which rises and falls, a terrific volume of noise battering at our ears...made by some far-off world as it flees shrieking in agony across the firmament...in a moment this celestial

> cater-wauling is shouldered aside, so to speak, by the Sextette/from "Lucia"/being sung in our very ears and evidently by giants a hundred feet tall...Still, science has conquered, the music is there...brought down and hurled upon us from the horn."

A sense of temporal disorientation, however, appeared the most significant source of distress. By the Twenties, a sense of ever-accelerating time had been with Americans for a half-century. One had been able, however, to maintain a certain equilibrium, so long as time seemed a reliable linear flow.[57] Now, that vital sense of temporal continuity appeared threatened by radio's format -- a succession of disparate elements, senselessly juxtaposed. One critic protested:[58]

> Busy as the average American is, he or she has not yet reached the point where either education or entertainment is absorbed in the five-minute installment plan...yet the originators of the present style in radio programs multiply/the five-minute period/indefinitely."

The jumble now included bands, orchestras, national rites, and public functions interspersed mindlessly with "explanations" by announcers. Radio broadcasting provided "the biggest crazy-quilt of audition" ever perceived by human ear. "Crazy-quilt" -- an apparently homely metaphor from the pioneer past --could also hint at fragmentation, disjunction, and consciousness pushed to the edges of the sane.

Modern science had split the old order into a thousand fragments, asserted sociologist E.C. Lindeman in a perceptive New Republic essay on radio. Increases in stimuli might result in increased difficulty in

integrating behavior. "We may hear. . .too much for our capacities for experience." The stress seemed related to what the German sociologist, Georg Simmel, had called in 1903 the development of "urban perception." He had spoken of the "intensification of nervous stimulation" stemming from swift change of stimuli. Impressions from more regular experience "use up, so to speak, less consciousness than does the rapid crowding of changing images, the unexpectedness of onrushing impressions." In 1913, such discontinuity had been specifically associated with the new electronic experience by the Italian futurist, F.T. Marinetti, as he invoked the "confused medley of sensations and impressions" characteristic of what he called the "wireless imagination." Here then was one of the profound challenges to traditional consciousness posed by the new technology -- the disruption of a sense of linear flow, of continuity, of unbroken time at one's command.[59]

To the modernist sensibility of the Twenties, the "unexpected" in radio montage appeared a venture in surrealism, the method of Ulysses or The Wasteland. The sense of disconnection for the "modern" man would be forcefully put by Walter Lippmann in 1929, asserting that press, radio and film compelled attention to elements "detached from their backgrounds, their causes and their consequences... having no beginning, no middle, and no end, mere flashes of publicity playing fitfully on a dark tangle of circumstances."[60]

The disconcerting mosaic of radio did resemble the older make-up of

the newspaper, to which citizens were accustomed.[61] And yet the visual mosaic of the newspaper seemed more under control than the temporal mosaic of radio. Once tuned to a particular station, radio provided a flow of impression like time itself which, as Bergson had said, permitted no repetition, no return. The radio listener was indeed helpless, concluded Radio Broadcast in 1922. "You turn on your switches and wait.... (i)t may be a selection from 'Aida,' wonderfully executed, or it may be nothing but a scratchy, cracked phonograph record. You have nothing to say about it...."[62]

"The newspaper can be read at one's convenience," aserted one radio reviewer, "it can be read to suit one's moods or interests, and selectivity therefore is at one's command. Radio's output must be caught at the hour it is scheduled, and if the auditor misses a few words, effectiveness is lost because it is not possible to go back."[63] Priority and rate of attention, reprise and scanning -- all had passed to others' control.

Accommodating both visual and auditory stimuli simultaneously appeared intolerable. Now the evening paper received short shrift, said one academic critic. Who could read while a loud speaker poured out the latest jazz?[64]

Such irritability over disruption of the nightly newspaper ritual was amplified in a wave of periodical coment, comparing the apparent impacts of newspaper and radio on society and the self.[65] Advantages

were properly chronicled, but there remained a lingering sense of dis-ease. Americans had heavily invested themselves in the experience with newspaper; newspapers reflected not only exterior reality but the self. "We see ourselves in our newspapers," reflected one acute critic. "We are our newspapers."[66] Radio with its raucous form, its demand for new behavior, and its seemingly erratic reflections of experience meant a sharp break with the past. It appeared to threaten a traditional identification,an anchoring of self in what had been continuous relationship to a stable form.[67]

The importance of radio was scarcely to be over-estimated, concluded the Dutch historian, Johan Huisinga, on visiting America in 1926. Farm families and invalids could share through radio some of the life of the city. "But no one who listens to it any longer chooses for himself the stuff upon which his mind feeds." Radio compelled a strong but "superficial" exercise of attention, "completely excluding reflection, or what I might call reflective assimilation." Huisinga's American colleagues amplified the observation, blaming radio for a national decay in concentration and predicting standardization of the American mind.[68]

One conflict thus emerging in the early 20's opposed a new sense of mastery to a newly discerned loss of control. On the one hand was the ability to command the remote event to occur within one's own hearing; on the other, the consequent threat to personal boundaries and familiar patterns of sensibility.

CONNECTION VS. ALIENATION

With the advent of the radio age, the optimistic predicted the strengthening of international ties, enhancement of the democratic process, and the revival of the family. The magical new electronic tie would surely bind.[69] In conflict with such expectations came reports of individual alienation from social and personal involvement, an alienation which appeared to be encouraged by peculiar aspects of the process, content, and form of the new technology.

Though some could see in radio a potential for new social control over immigrants, criminals and other non-conformists, a striking aspect of radio process seemed more apt to separate the individual from customary forms of authority.[70] Traditional mediators were circumvented. Children listened secretly at night under the covers, headphones over their ears, eluding parental authority. Women savored the forbidden male environment of the prize fight. Voters heard candidates without the filter of a partisan press.[71]

Churchmen and politicians began to bewail lack of participation in their rites as individuals sensed the insulation radio could provide against community surveillance. "Why go to your parish church," came the ironic query from the Episcopal bishop, "when you can sit at ease in your parlor and hear a capable choir...a magnetic preacher?"[72]

The full impact of the new escape from others' expectations could be discerned in reaction from media columnists. As Heywood Broun remarked,

one could listen to a sermon on the radio, throw in a few cuss words, and smoke a cigar all at the same time. If one disagreed with a political speaker, pointed out Mark Sullivan, no need to tip-toe, embarrassed, out of the auditorium past disapproving fellow-auditors. One just turned the dial.[73]

Oddly enough, however, freedom also meant loneliness. There came over individuals a new and strange sense, that of being one of an atomized mass. A distinctive impact of radio, said Eunice Fuller Barnard, lay in the unique position of auditors who were "of an audience, yet each alone in it." Though one addressed a million people at once, "he can count on no group response; his voice reaches them not as a mass but as isolated units. They do not, they cannot react on him or each other. He cannot sense their feeling. There is no mutuality, no give and take....The listeners do not have to declare themselves....they hear him practically alone."[74]

Radio could indeed separate one from all social activity. He was not going to the political meeting that night, a Middletown businessman told an interviewer in 1924, and he turned to his radio instead "for an evening's diversion." (More intimate connection was subject to the same strain. Most powerful symbol of interpersonal alienation was the "radio divorce," new to the headlines. One partner appeared to withdraw irretrievably behind a wall of sound, leaving the spouse no recourse but the courts.)[75]

The process of radio broadcasting was not the only alienating factor; some of its more unconventional content appeared to threaten traditional moral and political beliefs as well. The Tudors' sixteenth century concern for the spread of sedition and heresy via the new technology of print was echoed four centuries later by those who viewed radio content as detrimental to government and dangerous to the immortal soul.[76]

In the grip of paranoia over alien religious and political expression, the Dearborn Independent warned of communist ideas beamed to innocent farm youth by "organized Jewry" from a radio station on the Sears, Roebuck building in Chicago. Borrowing the language of the Great War, the Independent saw radio as a new "poison gas." Liberals poked fun at such extremes. ("See grandmother being converted to Socialism as she knits of an evening with her earphones on.") But the problem remained, implicit in radio's most remarkable quality, the obliteration of time. No longer could an encounter with strange experience be delayed by its conversion into newsprint, while its language was tidied and its moral or political dangers removed. Now the listener was instantly present and vulnerable at the event.[77]

The Chicago Tribune polled readers on its proposal to broadcast the sordid Leopold-Loeb trial in 1924, and implied that the shock would be discreetly cushioned by an approximation of the old editing process. "Sensation there will be," asserted the Tribune, "but no filth. The

censor will be as discriminating with his push button as are the editors of the Tribune with their copy pencils. . .broadcasting of the trial will be as clean as the Tribune." Readers by the thousands voted against the promised "superlative experiment." Immediate exposure to such content was too threatening to the sensibilities; instant editing would not do. In Chicago, at least, time between such an event and its comprehension would stretch out for a comforting few more years.[78]

Probably the most intriguing questions were posed in connection with radio form. Could a reproduction provide an authentic experience of communication between individuals? Was the real, once reproduced, still real? Some observers saw in the adulation poured out on radio personalities a form of pseudo-encounter. Little Howard Legion, aged 8, did not suspect that the Uncle Charlie who told him bedtime stories was merely "pushing his personality through the ether at some thousands of children whom he has never seen, will never see, and cares rather less than nothing for."[79] More poignant must have been the plight of the hypothetical listener to a broadcast communion service who wondered whether the ritual was binding. Were the body and the blood truly hers?[80] "The presence of the original is the pre-requisite to the concept of authenticity," the critic Walter Benjamin would declare on entering this debate, which ranged through the new technologies and across continents during the period. Reproduction, he said, would destroy both the uniqueness and the aura of the original.[81]

Perhaps a similar sense of inauthenticity, of lack of meaning, moved young Edmund Wilson to describe in his journal the "empty sonority," the "hollow yowling" of radio. The year was 1925, the same year T.S. Eliot published "The Hollow Men."[82]

RESOLUTION

As Americans of the early 20's gave up their complete dependence on newspapers and wireless in order to cope with radio, they experienced an inevitable sense of loss -- loss of the feelings of mastery and connection attached to the old means of communication. Print journalism seemed to reflect and respond to the ambiguity of a process like that of grief -- providing familiar metaphors and analogies to make these contradictory new experiences more understandable. There were the images of romance and conquest that belonged to confidence, but also the crazy quilts and poison gas of fear and defensiveness.

Though this conflict appeared unresolved by the mid-Twenties, a complex psychological process also seemed to be underway in which individuals were devising ways to barricade themselves against radio. Only gradually would they allow the barricade to become a kind of semi-porous membrane, admitting desired aspects of the new radio-mediated world and rejecting others. The process would involve development of a new sensibility appropriate to an electronic environment, and its beginnings would be seen by 1924.[83]

In that year the New York Times reviewed the first American edition

of Beyond the Pleasure Principle. In it the Viennese philosopher Sigmund Freud advanced speculatively the idea of consciousness as a "little fragment of living substance" threatened by a world charged with powerful energies. To avoid destruction, the organism developed what Freud called "a stimulus shield" allowing some stimuli to penetrate but excluding others. Times reviewer Mary Keyt Isham was reminded of the child's notion of a caterpillar, "all skin and squash." The skin was the rind against excessive stimuli; the squash, the inner consciousness.[84]

Freud intended to illustrate psychic process, but his language resembled that of others speculating on the problem of overwhelming stimuli in modern life. From Berlin two decades before, Simmel had suggested the "increased awareness" developed by the urban dweller to protect against environmental threat. And Walter Benjamin had specificially invoked Freud's stimulus shield in discussion of the "training" to which communications technology -- newspaper or film --subjected the human sensorium.[85]

In his 1924 essay on radio Lindeman applied the model of the "postponed or delayed response to stimuli" specifically to the radio listener. Such secondary modes of communication as radio, he said, might well produce an environment so artificial that human adjustment would become impossible. Therefore their value depended on man's capacity to "control and appropriate" the resulting stimulus.[86]

In the first years of the decade, Americans seemed far from control.

A great proportion seemed caught up in an infatuation with novelties of sound and distance. Those others who resisted engulfment by the new technology seemed to defend themselves either by denial or retreat. The usual prescription was to turn the switch. "If you have a radio," Will Rogers advised during the 1924 presidential campaign, "now is the time to get it out of fix." (Intellectuals, of course, had never taken up radio in the first place. They had not as yet, said one observer, come to grips with the typewriter.)[87]

Some took aggressive action, advising stations to stop broadcasting when the supply of quality material ran out. Others talked censorship, or legislation. A few took direct action. Secretary of State Charles Evans Hughes was entertaining distinguished guests in his own home when, in their full hearing on his own radio, a news commentator sharply criticized his State Department policy. The angry Hughes protested directly to the president of AT&T, owners of the offending station. The contract of the commentator, Hans von Kaltenborn, was not renewed.[88]

A bleak passivity, however, seemed more characteristic of the modernist reaction represented by Bliven, who sardonically predicted the world of 1930 in which:[89]

> "there will be only one orchestra left on earth, giving nightly world-wide concerts; when all the universities will be combined into one super-institution conducting courses by radio for students in Zanzibar, Kamchatka, and Oskaloosa; when instead of news papers, trained orators will dictate the news of the world day and night...when every person will be instantly accessible day or night to all the bores he knows...when the last vestiges of privacy, solitude, and contemplation will have vanished into limbo.

Such disparate reactions -- denial, rage, cynical despair --resembled the classic reactions to grief. Now came also, however, tangible indications of the fulfillment of Lindeman's prescription for adjustment to altered environment.

Looking back on the scene from 1931, Historian Frederick Lewis Allen would recollect that around 1923 people had begun to take their radio sets for granted, as background for a newer craze, Mah Jong. His recollection appears to have been faulty; radio was still very much in the foreground in 1923. What is significant in Lewis' statement is its embodiment of the consciousness that would develop by 1931 when radio would indeed have become psychically assimilated, so much so, perhaps, that it might unwittingly be projected back onto the people of the early 20's.[90]

Certainly perceptions and actions would be re-organized around what once had been strange; as early as 1924 one writer could describe his habit, "to punctuate my space bar, as I typewrite, to whatever tempo radio sets for me."[91] But such individuals were acutely conscious of radio and how it had structured their lives.

More importantly, an occasional observer perceived a new exercise of individual initiative. It became apparent that listeners were increasingly restive, ventured one columnist, they seemed no longer spellbound by a mediocre and haphazard succession of performers. A number now listened with discrimination, added another, instead of

"swallowing all that they hear, whole and without thought."[92] Such individuals neither listened passively nor tuned out. They continued to engage with the new form. More selective reactions began to emerge --wariness, choice, control.

It would be impossible to recapture the old consciousness, so structured by the linear patterning and delayed timing of print. The new electronic sensibility would range far more widely, but less contemplatively. It would accommodate the discontinuous more easily, but concentrate less effectively. It would extend relationships, but pursue them in less depth. Irretrievably altered by new technology, nonetheless, it might yet transcend.

The unity of mankind was not to be sought in machines, Lindeman suggested in 1924, but in the human personality.[93] The way would be "complicated, difficult and conducive to sober reflection." An implication was there for an age troubled by dehumanizing forces: technology need not be destiny. Even in the face of such forces, the individual might reassert something of the old sense of communion and command, tempered by regret for what had gone. Such would be the kind of meaning and comfort future generations must find.

NOTE

1. C.C. Dill, Radio Law (Washington, D.C.: National Law Book Co., 1938), pp. 1,2.

2. This essay uses "sensibility" to mean association and interaction of feeling and thought. Of major influence in shaping my thought have been Wolfgang Schivelbusch, The Railway Journey: Trains and Travel in the 19th Century, (New York: Urizen Books, 1979) and Marshall McLuhan, Understanding Media: The Extensions of Man, (New York: 1964), both indispensable to study of sensibility in relationship to technology. For particularly useful comment, I thank Michael Barkun, Seymour Fisher and Andre Fontaine.

3. "Era of Expansion" is the title Gleason L. Archer gave to this early period in his classic work, History of Radio to 1926 (New York: American Historical Society, 1938). By 1922 there were an estimated 600,000 "receiving stations"of which only 678 were commercial. The overwhelming mood was astonishment and pleasure; as late as 1925, radio fan letters expressed primarily "enthusiastic surprise." "The March of Radio," Radio Broadcast (June 1922), p. 95, New York Times, 13 October 1925.

4. Erik Barnouw, A Tower in Babel: A History of Broadcasting in the United States, I (New York, Oxford University Press, 1966), p. 91.

Though wireless telegraphy via code had been pioneered by Guglielmo Marconi before 1900, transmission of sounds, voices and music via wireless telephony (also called radio telephony) depended on perfection of the vacuum tube by Lee DeForest and others about 1912. The separation of transmitting from receiving equipment, mass marketing of receiving equipment and growth of "broadcasting" stations made living room listening possible for the general public in the early 20's. See also J. Fred McDonald, Don't Touch That Dial! (Chicago: Nelson-Hall, 1979), pp. 1-23, and Philip T. Rosen, The Modern Stentors: Radio Broadcasters and the Federal Government, 1920-1934, (Westport, Conn.: Greenwood Press, 1980), pp. 1-14.

5 "Shall the Youth of America be Exploited? A Brand of Communism Which Aims at Control of Junior Farm Centers," Dearborn Independent, 6 September 1924, p. 10.

6. The literature on the relationship between culture and technology is vast; concerns over electronic technology would eventually be expressed in such explorations as James Carey and John J. Quirk, "The Mythos of the Electronic Revolution," American Scholar 39 (Spring, Summer 1970): pp. 219-41, 395-424. Harold A. Innis, The Bias of Communications (Toronto: University of Toronto Press, 2nd ed., 1964); Barry N. Schwarz, ed., Human Connection and the New Media (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1973), and Raymond Williams,

Television: Technology and Cultural Form (New York: Schocken Books, 1975).

7. "The working out of a severe bereavement represents...a general principle of adaption to change...Change...presents some common features: the need to re-establish continuity, to work out an interpretation of oneself and the world which preserves, despite estrangement, the thread of meaning.... If this analysis can be applied more generally...then the outcome of social changes, too, may depend on the management of this process of transition...." Peter Maris, Loss and Change (New York: Pantheon Books, 1974), pp. 38, 42.

8. The language of the indexers to mass media -- those of morgue-keepers for newspaper clippings or indexers to periodicals -- are clues to categories for organizing experience which are available to culture. The Readers' Guide filed all articles about wireless telephony under "WIRELESS" -- a category indicating the loss of something, i.e. wires --until 1915. That year a new category, RADIO, merited one entry. By 1922 all articles about any kind of wireless were filed under RADIO. The absence of wires as an organizing idea had been transcended by the perceived presence of a new category, radio.

9. Barnouw, Tower in Babel, pp. 75-188.

10. Five sources have been particularly fruitful for comment on radio in re culture: the New Republic and the New York Times with content

appropriate to an urban, educated readership; the Scientific American, for a national audience of relatively sophisticated readers; Radio Broadcast, which appealed across class and geographic lines to a readership including children and the poor, and Dearborn Independent, calculated to suit small-town and rural midwesterners.

11. Paul Fussell, The Great-War and Modern Memory (New York: Oxford University Press, 1975), p. 74. I am indebted to Fussell for his elaboration of the way in which "unprecedented meanings" must find "precedent motifs and images," and for his citation of D.H. Hirsch's theory of the way new meanings get proposed: "No one would ever invent or understand a new type of meaning unless he were capable of perceiving analogies and making novel subsumptions under previously known types....By an imaginative leap the unknown is assimilated to the known, and something genuinely new is realized." See Fussell, pp. 137-9 and Hirsch, Validity in Interpretation (New Haven: Yale University Press, 1967), pp. 105.

12. "Broadcasting to Millions", New York Times, 19 February 1922.

13. Rudyard Kipling, "Wireless," Scribners' Magazine 32 (August 1902) pp. 129-143. Kipling had a firm hold on the electronic imagination of the era. To Bruce Bliven in 1922 the huge radio control switchboard with instruments, dials and handles instantly evoked the ray and its vigilant slave in Kipling's "With the Night Mail". See Bliven's "The Ether Will Now Oblige," The New Republic, 15 February 1922, p. 328.

14. "The Analogy between Wireless Telegraphy and Waves from Brain to Brain," Current Opinion 57 (October 1914): p. 253.

15. Buckner Speed, "Voices of the Universe," Harper's 138 (April 1919): p. 613.

16. "Broadcasting to Millions," New York Times, 19 February 1922.

17. Speed, "Voices of the Universe," p. 615.

18. Before the advent of the microphone and radio, a disembodied voice could exist in the human imagination most dramatically as emanation of the spiritual or the divine. Electronic technology divorced the voice from its natural habitat, made it an imaginable thing in its own right, separate from its bodily connection; see Schivelbusch, Railway Journey, p.54. In the film, "The Next Voice You Hear," (1950) God would speak on the radio. A similar idea is preserved in the gospel song, "Turn Your Radio On," Barnaby Records, X30809, imploring hearers to "listen to the Master's radio."

19. Scientific debates about wireless were marked by dispute as to the composition and function of the ether and indeed whether it existed at all. See for example, the sub-head to the article on brain-waves, "Subtlety of the Wave in the Ether," Current Opinion 57 (October 1914): p. 253; "Sir Oliver Defends the Ether," Literary Digest, 2 December 1922, p. 28.

20. "Spiritualism" was a substantial index category in the New York Times after the war. See R. Laurence Moore, In Search of White Crows: Spiritualism, Parapsychology, and American Culture (New York: Oxford University Press, 1977), p. 175. During the same years Edison was developing a "spiritual communications machine;" see Matthew Josephson, Edison: A Biography (New York: McGraw-Hill, 1959), p. 439.

21. W.H. Worrell, "Do Brains or Dollars Operate Your Set?", Radio Broadcast 2 (November 1922): p. 70.

22. This association was best preserved in the amber of the Dewey Decimal System which shelved Freud next to works on ghosts, spooks and witches.

23. "Hitching the Wireless to Your Subconscious Mind," New York Tribune, 21 May 1922.

24. Orange Edward McMeans, "The Great Audience Invisible," Scribners' Magazine, 72 (April 1923): p. 410.

25. See for example the British philospher, L.T. Hobhouse, observing the growing impatience with reason, the glorification of action, vital impulse or instinct, the greater readiness to resort to violence, The World in Conflict (London: T.F. Unum, Ltd., 1915). Gilbert K. Chesterton in 1921 lectured in New York on "The Revolt Against Reason", discussing Christian Science, jazz, spiritualism, psychoanalysis and

associated phenomena; "Calls Psychoanalysis A Rival to Jazz," New York Times, 28 March 1921. For comment on distrust of reason in the 20's and its relationship to mass media, see Michael Schudson, Discovering the News: A Social History of American Newspapers, (New York: Basic Books, 1978), pp. 126-7.

26. Angus S. Hibbard, "How to Use a Telephone," Saturday Evening Post, n.d. in Ray Brosseau, ed., Looking Forward: Life in the Twentieth Century as Predicted in the Pages of American Magazines from 1895 to 1905, (New York: American Heritage Press, 1970), p. 81.

27. "The Persistent Mysteries of Wireless Telegraphy and Telephony," Current Literature 49 (December 1910): p. 636. Excellent discussion of the emergence of the broadcasting model from the telephonic can be found in William Peck Banning, Commercial Broadcasting Pioneer: The WEAF Experiment, 1922-1926 (Cambridge: Harvard University Press, 1946), pp. 41-61; E.H. Colpitts, "The Future of Radio Telephony," Scientific American, 4 December 1915, p. 485. David Sarnoff, writing his famous "Radio Music Box" memo in 1916, was among those who broke out of the telephonic model, realizing that the "lack of secrecy" could be turned to commercial advantage by "broadcasting" entertainment and education into homes, without expecting confidentiality or reply. His superiors at American Marconi ignored his suggestion. Eugene Lyons, David Sarnoff (New York: Pyramid Books, 1967), pp. 87-89; Laurence Bergreen, Look Now,

Pay Later; The Rise of Network Broadcasting (Garden City, N.Y.: Doubleday & Company, Inc., 1980), pp. 20-22.

28. "'Listening In,' Our New National Pastime," American Review of Reviews, 19 January 1923, p. 52.

29. New York Times, 22 February 1922. Also see the Richard Schwarzlose essay, this volume.

30. "75,000 American Boys Have This Enthusiasm," American Magazine 81 (June, 1916), p. 104. Countless titles in the magazines of the period repeated the theme. See "The Romance of Wireless," Literary Digest, 15 August 1914, p. 281.

31. Guglielmo Marconi, "Wireless and the 'Titanic'," World's Work 24 (June 1912): p. 225.

32. "Work for Wireless Amateurs," Literary Digest, 18 August 1917.

33. "It was always to be expected that he would be held up by robbers...round him was a suggestion of masked faces at the window, revolvers, cords binding him to a chair, his struggle to crawl to a key before he fainted....giving assurance that there remained a world beyond." Sinclair Lewis, Main Street (1920; New York: Harcourt, Brace and Company, 1948), pp. 235-6.

34. "Adventures in Radio," Radio Broadcast 1 (May 1922): pp. 72-3. This article featured radio as a leading factor in the lives of

gun-runners, smugglers, revolutionists and international spies.

35. "Floods and Wireless," Technological World 23 (August 1915): pp. 806-7; "Radio Communications and the Great War," Scientific American 30 November 1918, p. 447; "How Wireless Helps the Mariner," Scientific American, 13 April 1918, p. 340; "Railway Wireless Telegraph and Telephone," Engineering Magazine 48 (January 1915): pp. 585-8, "Time by Wireless", Harper's Weekly, 28 June 1913, p. 19.

36. Buying the materials and making one's own crystal set became almost a ritual passage to manhood. See "Almost A Soldier Is The Boy Who Understands Wireless Nowadays," Woman's Home Companion 43 (October 1916): p. 32. Women who assembled sets were so rare as to merit special articles: "How Two Girls Made A Receiving Radiophone," Literary Digest, 10 June 1922, p. 29.

37. "The first-class scout who...calls me 'dad,' worked manfully with me while we wound our coil of nights in the kitchen ....The good wife and scout-mother grew tired of our fussing around in the kitchen, so we retreated to the attic and kept on winding coils...." McMeans, "Eavesdropping on the World," pp. 226-27.

38. These article provided metaphoric expression of a massive process of industrialization and commercialization that provided 750,000 radio sets by 1922 and enough programming, haphazard as it was, to support the

new listeners' craze. "The Long Arm of Radio Is Reaching Everywhere," Current Opinion 57 (May 1922): pp. 684-7; "The March of Radio," Radio Broadcast 2 (November 1922); pp. 3-4.

39. A.R. Pinci, "This Is Radio-Casting Station 'H-O-M-E'," Dearborn Independent 20 September 1924, p. 4. For feminine response see Alice R. Bourke, "O Woe! Radio," Radio Broadcast 2 (December 1922): p. 107: "Of course I am the boss, but it ....is handy in many ways to let him think he is the Great Voice around this radio-devastated remainder of What Was."

40. Ford A. Carpenter, "First Experiences of A Radio Broadcaster," Atlantic Monthly 132 (September 1923): p. 388.

41. The feminization of male experience with radio was unwittingly satirized by an interior decorator's proposal for a special radio room. "Of masculine charcter, obviously", the room would be "developed" in the attic, that old male redoubt, with floors in two shades of slate, tinted plaster walls and chairs in dark blue corduroy. Alwyn T. Covell, "Decorating the Radio Room: A New Thought for the House in Town or Country Where 'Listening In' Is Getting to be One Serious Pastime," House and Garden 44 (August 1923): pp. 50-1.

42. "The Long Arm of Radio," Current Opinion 72 (May 1922): p. 684; "The March of Radio: Too Many Cooks Are Spoiling Our Broth," Radio

Broadcast 2 (November 1922): p. 3; "Is The Radio Amateur Doomed?" Liteary Digest, 2 December 1922, p. 28; Carl Dreher, "Is the Broadcast Listener at Fault?" Radio Broadcast 4 (March 1924): pp. 424-425; "Too Proud to Study," Radio Broadcast 5 (July 1924): pp. 218-9.

43. Some writers of the period saw passivity everywhere. They attributed it to a malign technology and to the growth of consumerism. Men were groveling before the machine, said Waldo Frank, because they had not the "consciousness" to master it "The Machine and Metaphysics," The New Republic, 18 November 1925, pp. 330-1; Johan Huisinga bewailed the disappearance of "the active man, as embodiment of enterprise," in the wake of technological expansion, America: A Dutch Historian's Vision from Afar and Near (New York: Harper & Row, 1972), p. 234; Charles and Mary Beard ambivalently evoked masses listening "passively" to manufactured music, but also to a radio which permitted "buyers" to chose their music. The Rise of American Civilization (1927; New York: The MacMillan Co. 1930), p. 785.

44. Bliven, "The Legion Family and the Radio", Century, (October 1924): pp. 811-818.

45. "Radio To Supplant Press That Exploits It?" Dearborn Independent, 3 June 1922, p. 8.

46. The "presumed superiority of the radio over the newspaper," based on the assumption that "the sense of seeing is inferior to the sense of

hearing," was strongly debated in a decade when psychology was taking sharp interest in comparative effects of sensual stimuli; i.e. E.C. Lindeman, "Radio Fallacies," New Republic, 19 March 1924, p. 228.

47. McMeans, "Great Audience," p. 416. Americans savored novel sounds, the "roars of circus animals, the rattle of a rattlesnake, the voice of an aviator high in the sky, and the roar of waves of the Atlantic," "How American Broadcasting Differs....", New York Times, 3 August 1924.

48. McMeans, "Great Audience," p. 411.

49. See reference to the "selfish head-phones" in an advertisement for the Audiophone, "Radio Broadcast Advertiser" section, Radio Broadcast (October 1923), n.p.

50. "Wanted, A Radio Language," Literary Digest, 23 June 1923, p. 24.

51. Radio's ability to annihilate the time between distant event and perception of that event was frequently expressed in spatial metaphor. A tiny, dispirited globe was overshadowed in a Chicago Daily News cartoon by a gigantic radio listener, remarking, "Well, Well! Isn't he a cute little fellow?" The caption: GETTING SMALLER EVERY DAY; Literary Digest, 17 June 1922.

52. Bliven, "The Legion Family," pp. 814.

53. "A Wireless in Every Home," Radio Broadcast 1 (June 1922): p. 110.

54. An acute sense of physical invasion comes in a news account of a couple terrified by sounds of "burglars" apparently counting the family silver. The counting, it developed, came from a new radio, broadcasting setting-up exercises in the next room. New York Times, 3 August 1924.

55. Bliven, "The Legion Family," pp. 815; to some critics the machine could create its own esthetic, to others it represented sheer vulgarity, the result of a frantic desire to own more and more consumer goods. See Lewis Mumford, American Taste (San Francisco: The Westgate Press, 1929), pp. 16-22, 27-31, 34; on the search for a life-style in a machine age, see suggestive comment by Warren Susman, Culture and Commitment, 1929-1945 (New York: George Braziller, 1973), pp. 4-8.

56. Radio Broadcast (April 1923), p. 525; Bliven, "The Ether Will Now Oblige," p. 328.

57. Americans had always been people in a hurry. By the early years of the 20th century, linear time itself seemed under seige -- there was the relative time of the physicists, the simultaneity of the Cubists, and the rediscovery of "primitive" time by the anthropologists.

58. "Broadcasting or Outcasting," Dearborn Independent, (13 June 1925), p. 13.

59. Lindeman, "Radio Fallacies," pp. 227-228; Georg Simmel, "The Metropolis and Mental Life," in The Sociology of Georg Simmel, ed. Kurt

H. Wolff (New York: The Free Press, 1950), p. 410; F.T. Marinetti, "Wireless Imagination and Words at Liberty: The New Futurist Manifesto," Poetry and Drama 1 (September 1913): p. 322.

60. Walter Lippmann, Preface to Morals (New York: The Macmillan Co., 1929), p. 64.

61. McLuhan, Understanding Media, p. 188.

62. Review of Time and Free Will: An Essay on the Immediate Data of Consciousness, by Henri Bergson, The Nation, 24 November 1910, p. 499; Radio Broadcast 1 (May 1922): p. 1.

63. "The Lure of the World's Aerial Theater," Dearborn Independent, 30 August 1924, p. 3.

64. E.M. Johnson, "The Utilization of the Social Sciences," The Journalism Bulletin 4 (1927): p. 32.

65. See, for example, "Radio to Supplant Press," p. 8; McMeans, "Eavesdropping," p. 226; Eunice Fuller Barnard, "Radio Politics," New Republic, 19 March 1924, p. 91; "The Future of Radio," New Republic, 8 October 1924, p. 135; Mark Sullivan, "Will Radio Make the People the Government?" Radio Broadcast, 6 (November 1924): pp. 24-25.

66. Thomas L. Masson, "Well, What's All This About the Newspaper?" Dearborn Independent, 18 October 1924, p. 2.

67. The problem of relating the self to radio surfaced in fantasy during this period; authors imagined themselves as incorporating radio's powers or as radio, emitting thought waves. Zenith of the form probably came in Argosy's 1924 story in which the protagonist mastered the problem of wireless transmission of matter, transmitting himself to Venus; Ralph Milne Farley, The Radio Man (Los Angeles: Fantasy Publishing Co., Inc., 1948).

68. Huisinga, America , p. 235; Jennie Irene Mix, "Is Radio Standardizing the American Mind?", Radio Broadcast 6 (November 1924): pp. 49-50.

69. "A better knowledge of one another would promote a fuller comprehension and appreciation of one another. It is our hope that wireless....telephony will work wonders in this direction, abolishing not only geographical, but also moral distances." Chancellor Seipel of Austria, quoted in "Radio Fallacies", p. 227, by Lindeman who declared it typical of the "prophetic utterances which usually accompany scientific inventions in the sphere of communication....We are to believe that /in/ radio...the great ends of life--beauty, truth, goodness and justice--have at last found their appropriate and effective means." Lindeman did not believe it.

70. News stories predicted radio-equipped police cars and revenue cutters. "Ether Waves Versus Crime Waves," Literary Digest, 7 October

1922, p. 25. Also proposed was a subliminal use of radio to indoctrinate immigrants, causing the "indifferent or antagonistic American unconsciously to become familiar with our government, its people, and their ideals." J.M. McKibbin, Jr., "The New Way to Make Americans," Radio Broadcast 2 (January 1923): pp. 238-9.

71. McMeans, "Great Audience", p. 413.

72. "The Effect of Broadcasting on the Churches," Radio Broadcast 2 (October 1923): p. 273.

73. "Listening In On The Radio," New York Times, 3 August 1924; Sullivan, "Will Radio Make the People the Government?", p.23.

74. Barnard, "Radio Politics," p. 92.

75. Robert S. Lynd and Helen Merrell Lynd, Middletown: A Study in American Culture (1929; New York: Harcourt, Brace and Company, A Harvest Book, 1956), p. 416; "Wife Leaves Radio Fan: Judge Says She's Right," New York Times, 10 February 1924.

76. Fredrick Seaton Siebert, Freedom of the Press in England, 1476-1776 (Urbana: University of Illinois Press, 1952), pp. 41-63. Typical of many articles was "Henry Ford in the Ether" citing the possibility of radio "as a medium for propaganda--educational, theological, commercial, or what not" which loomed large in the mind of every well-informed person;

Literary Digest, 6 January 1923, p. 29. Mr. Ford, it was reported, was to open a chain of 400 radio broadcasting stations throughout the United States.

77. "Shall the Youth of America....?", p. 10; "The Tribune Gets A Fast One," Dearborn Independent, 16 August 1924, p. 8; Barnard, "Radio Politics," p. 92.

78. Chicago Tribune, 17 and 22 July 1924, as quoted in Hal Higdon, The Crime of the Century: The Leopold and Loeb Case (New York: G.P. Putnam's Sons, 1975), pp. 158-9, p. 167.

79. "The Legion Family," p. 812.

80. "Holy Communion by Radio," Radio Broadcast 5 (July 1924): pp. 221-2.

81. Walter Benjamin, Illuminations, ed., Hannah Arendt, (New York: Schocken Books, 1969), pp. 220-1.

82. Edmund Wilson, The Twenties: From Notebooks and Diaries of the Period, ed., Leon Edel, (New York: Farrar, Straus and Giroux, 1975), p. 213. The sense of meaninglessness evoked by the content of electronic media would appear in 1961 in an echo of Eliot, the description of TV as "vast wasteland." Barnouw, Tube of Plenty: The Evolution of American Television (New York: Oxford University Press, 1975), pp. 299-300.

83. The structure of the following argument owes much to Schivelbusch, Railway Journey, pp. 152-160.

84. The Standard Edition of the Complete Psychological Works of Sigmund Freud, 12 (London: Hogarth Press, 1955-1966): pp. 24-33; Mary Keyt Isham, "Freud's Imagination Flooding Wide and Obscure Areas," New York Times, 7 September 1924.

85. Wolf, Sociology of Georg Simmel, pp. 410-411; Benjamin, Illuminations, pp. 160-3; 175.

86. Lindeman, "Radio Fallacies," p. 228.

87. "Will Rogers, Humorist....", Radio Broadcast 6 (November 1924): p. 39; Bliven, "The Legion Family," p. 811.

88. "And the sooner some stations curtail their programs, and go in for silent days and nights, the better...." Pinci, "Broadcasting or Outcasting," p. 14; H.V. Kaltenborn, Fifty Fabulous Years, 1900-1950, (New York: G. P. Putnam's Sons, 1950), pp. 112-113.

89. Bliven, "The Ether Will Now Oblige," p. 328. Some future historians would characterize such a reaction as Bliven's as "desperately resiting" mechanized culture, accepting alienation as the survival price. (Some evidence indicates, however, that a number of ordinary individuals, neither alienated nor despairing, found means to assert their own

autonomy against mechanization of communication.) Henry F. May, "Shifting Perspectives on the 1920's," Mississippi Valley Historical Review 43 (December 1954): p. 404.

90. Frederick Lewis Allen, Only Yesterday (1931; New York: Bantam Books, 1946), p. 101.

91. Pinci, "Station H-O-M-E," p. 4.

92. Edgar White Burrill, "Broadcasting the World's Best Literature," Radio Broadcast 2 (November 1922): p. 54; Mix, "Is Radio Standardizing?" p. 50.

93. Lindeman, "Radio Fallacies," p. 228; Waldo Frank also challenged theories of technological determinism, calling for a new consciousness "to fuse the machine...into our own expression.", "The Machine and Metaphysics," p. 330. Frank's synthesis recalled Marinetti's invocation in 1913 of the "synthetic imagination" natural to the wireless age. A more typical polarized advocacy of spirit against things, especially against mass media, would usually be traced back to Henry Thoreau, i.e. Kingsley Widmer, "Sensibility Under Technocracy: Reflections on the Culture of Processed Communications," Schwarz, Human Connection, p. 28